

Parenting and Adolescents' Accuracy in Perceiving Parental Values

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What determines adolescents' accuracy in perceiving parental values? The current study examined potential predictors including parental value communication, family value agreement, and parenting styles. In the study, 547 Israeli adolescents (aged 16 to 18) of diverse socioeconomic backgrounds participated with their parents. Adolescents reported the values they perceive their parents want them to hold. Parents reported their socialization values. Accuracy in perceiving parents' overall value system correlated positively with parents' actual and perceived value agreement and perceived parental warmth and responsiveness, but negatively with perceived value conflict, indifferent parenting, and autocratic parenting in all gender compositions of parent-child dyads. Other associations varied by dyad type. Findings were similar for predicting accuracy in perceiving two specific values: tradition and hedonism. The article discusses implications for the processes that underlie accurate perception, gender differences, and other potential influences on accuracy in value perception.

How do adolescents learn what their parents' values are? Agreement regarding some processes that lead to parent-child value similarity has emerged in recent years. Grusec and Goodnow (1994) proposed two steps of parent-child influence: First, children perceive parents' values either accurately or inaccurately. Second, children either accept or reject the parental values they perceive. Empirical studies provide some support for these steps (Okagaki & Bevis, 1999; Westholm, 1999). Several studies stress the importance of accuracy of perception for achieving parent-child value similarity (e.g., Smith, 1982; Whitbeck & Gecas, 1988). Yet little is known about factors that influence accuracy in perceiving parental values. Only two factors that may enhance accuracy have been studied: family value discussion (Okagaki & Bevis, 1999) and value agreement between parents (Cashmore & Goodnow, 1985; Okagaki & Bevis, 1999). The current study is the first to consider and test empirically a broad set of potential predictors of accuracy.

Most research on parent-child value similarity does not distinguish between factors that influence the accuracy as against the acceptance step. Consider the finding (e.g., Cashmore & Goodnow, 1985) that value agreement between parents relates positively to parent-child value similarity. This finding may indicate that parental agreement influences accuracy (there is less confusion over what parents want), acceptance (values on which parents agree are more persuasive), or both. This article focuses on the accuracy step, drawing on empirical data from a study of 547 Israeli families. This is the second in a series of three reports. The first examined the impact of accuracy and acceptance on parent-child value similarity (Knafo & Schwartz, 2002). The third will examine predictors of acceptance and similarity.

Values and Their Relevance

Values are desirable, abstract goals that apply across situations (e.g., freedom, social order, pleasure, obedience; Schwartz, 1992). Values serve as guiding principles in people's lives, as criteria they use to select and justify actions and to evaluate people and events. Evidence from diverse groups in more than 60 countries supports the claim that people discriminate among 10 motivationally distinct values (Schwartz, 1992; Schwartz & Bardi, 2001): power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. Values, as conceptualized here, have successfully predicted a wide variety of behaviors and behavioral intentions, such as consumer purchases, delinquency, sexual behavior, and

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The research was carried out while the first author was at The Hebrew University. This research was supported by grants from The Israel Science Foundation (Grant No. 921/02-1) and from the NCJW Center for Development in Education to the second author. The work of the first author was partly supported by a Kreitman Foundation fellowship and by a fellowship from the Martin and Vivian Levin Center for the Normal and Pathological Development of the Child and Adolescent. The authors wish to thank Nir Halevy, Gitit Kavé, Gila Melech, Lilach Sagiv, and Noga Sverdlik for their comments on an earlier version of the paper.

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voting (see Schwartz & Bardi, 2001, for additional examples and sources).

Processes Leading to Accurate Perception

To perceive a person (target) accurately, a perceiver (judge) must detect and correctly use available, relevant information (Funder, 1995). Many influences on accuracy operate through their effects on the availability of relevant information or on its detection (Kenny, 1994; Zuckerman et al., 1988). Detection depends, among other things, on the judge's attention to information and on the degree to which that information is understandable (Funder, 1995). Applied to accuracy in perceiving parental values, this analysis suggests three processes through which parenting may affect accuracy. It may affect the availability of parental messages, the understandability of these messages, and the adolescent's motivation to attend to them. Although we do not assess these processes directly, they provide the theoretical rationale for our hypotheses.

Availability of the target's behavior or messages presumably underlies the positive effects on accuracy of perception of acquaintance with the target (Funder, 1995), of observability of the target's traits (Zuckerman et al., 1988), and of communication between perceivers (Kenny, 1994). Regarding perception of parental values, Grusec and Goodnow (1994) suggested that parents make their messages available to children by capturing children's attention and signaling the importance of a disciplinary message to them. In this way they increase their children's accuracy of perception.

Understandability of information about a target presumably underlies the enhancing effect of the target's behavioral consistency on accuracy in perceiving their traits (Kenny, 1994; Zuckerman et al., 1988). Regarding values, Grusec and Goodnow (1994) proposed that children perceive their parents' values more accurately if parents communicate clear, redundant, and consistent messages that are suitable to the cognitive capabilities of their children. This is probably because such messages are more understandable.

Motivation to attend to target messages and behavior increases actual attention, and therefore detection, and accurate perception of target characteristics (Funder, 1995). The finding that children's affection for their parents influences the effort they invest in listening to and understanding their parents' views (Grusec & Goodnow, 1994) exemplifies this process. In a related way, parents who successfully convey positive intentions to their

children in disciplinary situations may increase accuracy of perception (Grusec & Goodnow, 1994) by motivating the children to attend to their messages.

Variables Likely to Promote Accurate Perception of Parental Values

For clarity of presentation, we group the potential predictors of accurate perception of parental values that we studied into three sets: (a) aspects of parental value communication to children, (b) indicators of value agreement in the family, and (c) parenting styles or dimensions. These variables are likely to affect accuracy of perception through one or more of the processes of availability, understandability, and motivation to attend.

Parental Value Communication

Consistency of parental messages. We distinguish two types of consistency. First is consistency of parental messages over time. Second is word-deed consistency, that is, consistency between the value messages parents convey explicitly in words and the implicit value messages their behavior conveys. Consistency should increase the understandability of parental messages by reducing confusion regarding parents' positions (Goodnow, 1997). On the other hand, parental inconsistency may undermine the motivation to attend to parental messages because children of inconsistent parents may conclude that their parents don't know what they want or that they are hypocritical. Thus, parental inconsistency has consequences for two processes, understandability and motivation. We therefore hypothesize that parental consistency contributes to accurate perception and that inconsistency undermines accuracy.

Frequency of value discussion. The more frequently parents discuss their values with their children, the more the adolescents are exposed to these values. In the related domain of religious beliefs, frequent discussion with parents correlated with accurate perception by daughters (Okagaki & Bevis, 1999). Frequent value discussion makes parental values more available to adolescents. We therefore hypothesize that frequency of value discussion contributes to accurate perception.

Value Agreement in the Family

Value conflict between child and parents. Overt value conflict is likely to increase the availability of parents' and children's values to one another

(Cooper, 1988). Congruent with this idea, children perceived their parents' positions accurately for neatness and obedience (Cashmore & Goodnow, 1985), value topics on which adolescents and their parents often clash (Hill & Holmbeck, 1987). Despite increasing exposure to parental values, however, conflict is likely to reduce accuracy of perception. Conflict elicits negative emotional reactions. These reactions may reduce adolescents' motivation to pay attention to their parents' values and undermine their ability to understand them. The negative effects of conflict on adolescents' motivation and comprehension are likely to outweigh its positive effects. This leads to the hypothesis that value conflict undermines accurate perception.

Parents' actual value agreement. Studies of religious and political values show that value agreement between parents is associated with parent-child value similarity (e.g., Cashmore & Goodnow, 1985). Some of this effect may be ascribed to increased accuracy of perception. When parents agree, their value messages are more likely to be clear and coherent rather than confusing and contradictory (Cashmore & Goodnow, 1985; Smith, 1982). Thus, parental agreement is likely to enhance the understandability of parental values. We therefore hypothesize that parental value agreement contributes to accurate perception.

Perceived parental value agreement. Regardless of parents' actual level of agreement, their children may perceive them as more or less in agreement. Perceived parental agreement may enhance children's motivation to attend to parental values because they are likely to find it easier to identify with parents they perceive as sharing the same values. Perceived parental value disagreement may confuse and upset children, thereby interfering with understanding. If their two parents communicate competing value messages, children may feel anger or resentment. Lower identification and greater antagonism are likely to reduce children's motivation to attend to parents' values. We therefore hypothesize that perceived parental value agreement contributes to accuracy.

Parenting Dimensions and Styles

Two dimensions of parenting, variously labeled, figure most prominently in the literature: (a) warmth, also called responsiveness or support, family cohesion versus conflict, distance or rejection; (b) demandingness, also referred to as control versus permissiveness (e.g., Maccoby & Martin, 1983; Steinberg, 1990). Combinations of these two dimen-

sions form the parenting styles that have been identified (Maccoby & Martin, 1983). Parenting styles are likely to influence parents' success in transmitting the values they want to their children (Darling & Steinberg, 1993).

Warmth and responsiveness. Warmth refers to expressions of affection toward the child, responsiveness to sensitivity and adaptation to the child's needs and desires. Although distinguishable, these two constructs share an emphasis on accepting and supporting the child (Darling & Steinberg, 1993). Given their conceptual overlap and their high intercorrelation in the current study (see the following discussion), we treat them as one variable here. Warmth/responsiveness correlates positively with parent-child value similarity (e.g., Rohan & Zanna, 1996; Whitbeck & Gecas, 1988) and with positive attitudes of children toward their parents (Henry, 1994). It may therefore enhance children's desire to spend time with their parent, thereby increasing availability. It may also motivate children to attend to the values their parents express. We therefore hypothesize that parental warmth/responsiveness contributes to accurate perception.

Monitoring. Monitoring refers to the extent to which parents try to control their children's behavior by tracking their whereabouts (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). It expresses the control and demandingness dimension of parenting. Parents who monitor their children closely might make their values more available, if they explain or justify the limits they impose. However, monitoring constrains adolescents' freedom. It may therefore antagonize or alienate them, thereby reducing their motivation to pay attention to their parents' values. Given these competing possibilities, we propose no hypothesis for parental monitoring.

Crossing the warmth/responsiveness and demandingness dimensions yields four parenting styles (Maccoby & Martin, 1983). Autocratic (authoritarian) parents are high on demandingness and low on responsiveness. They impose explicit standards on the child and do not negotiate. Authoritative parents are both demanding and responsive. Unlike autocratic parents, they explain what they demand, are willing to negotiate, and try to take the child's point of view into account in setting their standards. Indulgent parents are high on responsiveness but low on demandingness. Indifferent (permissive or neglectful) parents are low both on demandingness and responsiveness.

Autocratic parenting. Because demanding parents are likely to express their values when they set limits and establish rules for their children, this style may

increase the availability of parental values to adolescents. This could promote accurate perception. However, in Western cultures, autocratic parenting is accompanied by parental anger, coerciveness, and humiliation of children (Bugental & Shennum, 1984; Rudy & Grusec, 2001). This is likely to reduce adolescents' motivation to attend to the values of their parents. By eliciting negative emotional responses in children, autocratic parenting may also interfere with adolescents' ability to understand parental messages. We therefore hypothesize that autocratic parenting undermines accuracy.

Authoritative parenting. Because authoritative parents are demanding, they are likely to set clear rules and limits, thereby enhancing the availability of their values to adolescents. Authoritative parenting is also likely to enhance adolescents' motivation to attend to parental values because it is associated with positive parent-child relationships (Steinberg, 1990). We therefore hypothesize that authoritative parenting contributes to accurate perception.

Indulgent parenting. This style is likely to reduce the availability of parental values to adolescents because indulgent parents do not articulate their standards clearly. On the other hand, their warmth may increase adolescents' motivation to attend to parental messages. These apparently contradictory processes preclude a clear hypothesis for indulgent parenting.

Indifferent parenting. Indifferent parenting reduces the availability of parental values to adolescents because it provides no clear standards and expectations from which to infer parental values. Moreover, indifferent parenting is likely to reduce the motivation to attend to parental values because indifferent parents exhibit low levels of warmth. Consequently, we hypothesize that indifferent parenting undermines accurate perception.

Love withdrawal. This parenting technique conditions parental affection on the child's compliance with parental demands. Western adolescents perceive love withdrawal as a comparatively negative parenting behavior (Siegal & Barclay, 1985). Love withdrawal may induce short-term compliance, but it also produces anxiety and guilt in children and leads them to avoid their parents (Coopersmith, 1967; Maccoby & Martin, 1983). The negative emotional responses associated with love withdrawal may reduce adolescents' attention to their parents' messages and may even reduce the availability of these messages, as adolescents try to avoid their parents' presence. The anxiety associated with the threat of love withdrawal may also interfere with

understanding parental value communications. On the other hand, fear of love withdrawal may induce adolescents to attend more to parental messages to learn what is required of them. This last consequence of love withdrawal may promote accuracy. However, the preponderance of negative consequences leads us to hypothesize that love withdrawal undermines accurate perception.

In sum, we hypothesize that consistency in parental value communication over time, actual value agreement between parents, perceived parental value agreement, parental warmth, and authoritative parenting correlate positively with accuracy in perceiving parents' values; word-deed inconsistency, value conflict with parents, autocratic and indifferent parenting, and love withdrawal correlate negatively. We propose no hypotheses for monitoring and indifferent parenting.

Method

Procedure and Respondents

The study population was families of Jewish high school students from state and state-religious schools in Israel. We sampled schools from various regions and levels, using the Ministry of Education classification of schools into deciles according to parents' socioeconomic and educational level. Of the study population, 39% of respondents came from schools in the top three deciles, 37% came from the middle three deciles, and 24% came from the lower four deciles. This skewed distribution is due to the fact that many schools in the lower two deciles are from the ultra-orthodox and Arab school systems that were not included here. The sample reflects the study population with exceptions noted later.

Families of adolescents were recruited during 1999 and 2000 by telephone, using phone numbers from student directories for the 11th or 12th grade. Families were included if the adolescent (one per family) and at least one parent agreed to participate. This happened in 46% of the families contacted. A university student researcher visited each home to administer the questionnaires and provide necessary explanations. Family members were assured their responses would not be disclosed to others and each responded in privacy.

Data were gathered in 603 families. We excluded 12 families because of incomplete data and 44 immigrant families because parenting has different effects on value similarity among them (Knafo & Schwartz, 2003). The final sample included 547 families. In 39% of two-parent families, only one

parent (87% mothers) responded; 16% of the families were single-parent families (mothers in 85%). Thus, only one parent participated in 265 (48%) families. Of the adolescents, 57% were female, partly reflecting slightly higher response rates among families of female as compared with male adolescents (47% vs. 44%). Adolescents' age ranged from 15 to 19, with 95% between 16 and 18 ($M = 17.1$, $SD = .7$). There were 288 mother–daughter dyads, 205 mother–son dyads, 174 father–daughter dyads, and 162 father–son dyads.

Instruments

Values. We employed a modification of the Portrait Values Questionnaire (PVQ; Schwartz et al., 2001; Schwartz, Lehmann, & Roccas, 1999). Multitrait-multimethod analyses indicate that the PVQ measures the same 10 values measured by the value survey used in earlier research (Schwartz et al., 1999; Schwartz et al., 2001). The PVQ is more suitable for use with parents who had little or no formal schooling. It includes short verbal portraits of 40 people. Each portrait describes a person's goals, aspirations, or wishes that point implicitly to the importance of a single broad value. For example: "He thinks it is important to do things the way he learned from his family. He wants to follow their customs and traditions" describes a person for whom tradition values are important. "She really wants to enjoy life. Having a good time is very important to her" describes a person who cherishes hedonism values.

To measure own values, participants indicated "How much like you is this person?" for each portrait. They checked one of six boxes labeled: very much like me, like me, somewhat like me, a little like me, not like me, and not like me at all. Thus, respondents' own values were inferred from their self-reported similarity to people who are described in terms of particular values. The similarity judgments were transformed into a 6-point numerical scale. To measure perceived parental values for them, adolescents indicated "How would your father/mother want you to respond to each item?" To measure socialization values, parents indicated "How would you want your son/daughter to respond to each item?"

Smallest space analyses (SSA, Guttman, 1968) of the values of adolescents and their parents yielded structures similar to the prototypical, circular structure of values described by Schwartz (1992). Here, however, two types of security values, individual and group, were distinct. We therefore computed 11

value scores for adolescents and their parents, the usual 9 values plus 2 security values. The importance score for each value is the mean of the importance scores of the a priori marker items for that value. Mean Cronbach's alpha (across 11 values) was .63 for fathers' values, .57 for mothers' values, .65 for perceived fathers' values, and .62 for perceived mothers' values. These alphas are similar to those reported by Schwartz et al. (2001).

Overall accuracy of perception. To measure overall accuracy of value perception, we correlated parents' 11 socialization value ratings with the values their child perceived them as wanting him or her to endorse, within each parent–child dyad (Knafo & Schwartz, 2001). Thus, we obtained a correlation for each dyad that measured accuracy (cf. Bernieri, Zuckerman, Koestner, & Rosenthal, 1994). Because accuracy scores used as dependent variables are correlations, we performed the analyses on transformed r to Z scores. This method for assessing accuracy has the fewest limitations for our purposes (see Bernieri et al., 1994). It eliminates the elevation and differential elevation problems (Cronbach, 1955) inherent in other methods.

Error in targets' (perceived persons) self-reports, due to social desirability, ignorance, or defensiveness, may lower correlations between a target's measured self-perceptions and judges' (perceivers) descriptions of the target (Kenny, 1994). Such error might lead to the mistaken inference that judges are the ones who are inaccurate. In the case of parental socialization values, however, error in parents' self-reports is unlikely to be a serious source of apparent inaccuracy because socialization values are the declared preferences of parents for their children.

Perceived consistency of parents' value messages over time. Adolescents used a 4-point scale to rate their agreement with the statement: "My father/mother is consistent in his/her messages regarding the values important to him/her."

Perceived parental word–deed inconsistency. Adolescents read short descriptions of each of the 10 values. They then rated the importance of each value to their father or mother on a 4-point scale (0 = *not at all important*; 3 = *very important*), first based on the way he or she behaves and then based on what he or she says. The absolute difference between the two ratings for each value measured word–deed inconsistency. An SSA analysis of the 10 absolute differences revealed that they formed four groups that reflected the higher order value domains of the value theory (self-transcendence, self-enhancement, openness to change, and conservation; Schwartz, 1992). We therefore computed four indexes of word–

deed inconsistency, one for each higher order value domain, by averaging the absolute differences for the values in the domain. The four indexes served as indicators for a latent factor assessed in a confirmatory factor analysis separately for mothers and fathers. Table 1 presents this and the other latent factors. It provides the number of items and the range of item loadings for each factor, separately for fathers and for mothers.

Perceived frequency of value discussion and parent-child value conflict. Adolescents again read the descriptions of each of the 10 values. To index frequency of value discussion, they rated the extent to which they had discussed each value with their father or mother on a 4-point scale (0 = *no discussion at all*; 3 = *frequent discussion*). They then rated the degree of conflict (defined as arguing, fighting, or disagreeing) they had with their father or mother over each value on a 4-point scale (0 = *no conflict at all*; 3 = *frequent conflict*). Evidence from SSA of the 10 frequency of discussion and the 10 conflict items again supported forming four indexes, one for each higher order value domain (tradition values did not emerge in consistent locations in the SSA and were not included). These served as indicators for the latent factors of frequency of value discussion and of value conflict for each parent.

Actual value agreement between parents. In families in which both parents participated, the correlation between the father's and the mother's 11 socialization value ratings measured value agreement. Correlations were transformed to Z scores.

Perceived value agreement between parents. In families with both parents present, the correlation between the father's and the mother's 11 socialization value ratings, as perceived by the adolescent, measured perceived value agreement. Correlations were transformed to Z scores.

Perceived parental warmth/responsiveness. Four 4-point agree-disagree items measured warmth (e.g., "My father tells me how much he loves me") and three measured responsiveness (e.g., "When my mother sets a rule for me to follow, she generally explains the reason"). Warmth/responsiveness correlated highly (fathers: $r = .53$; mothers: $r = .61$). Given the conceptual and empirical similarity of these constructs, we computed a single latent factor to measure the joint warmth/responsiveness construct for each parent based on all seven items.

Perceived parental monitoring. Three items from a strictness/supervision scale (Lamborn et al., 1991) measured parental monitoring (e.g., "How much does your father try to know where you are most afternoons after school?") and were used to compute a latent factor for each parent.

Parenting styles. Adolescents and parents responded to detailed prototypical descriptions of each of the four styles (Rohan & Zanna, 1996). Adolescents rated each parent and parents rated themselves on 7-point scales for each prototype (1 = *not at all like my father/my mother/me*; 7 = *very much like my father/my mother/me*). Adolescents also rated their agreement with four statements about how decisions are reached between themselves and each of their parents (adapted from Elder, 1963), on a 4-point scale. For example, the autocratic style was described as: "My father just tells me what to do." We computed a latent factor for each parent for each parenting style, based on the two adolescent ratings and the parent's self-rating.

Perceived love withdrawal. Three 4-point agree-disagree items (e.g., "My mother won't talk to me when I do something against her will") were used to compute a latent factor for each parent.

Table 1
Standardized Loadings of Indicators on Latent Factors (Ranges)

Latent factors	Number of indicators	Mothers (N = 93)	Fathers (N = 336)
Word-deed inconsistency	4	.38 to .58	.36 to .57
Frequency of value discussion	4	.65 to .76	.61 to .77
Value conflict with parents	4	.77 to .86	.71 to .87
Warmth/responsiveness	7	.46 to .78	.44 to .72
Monitoring	3	.74 to .76	.72 to .80
Autocratic parenting	3	.49 to .64	.56 to .70
Indulgent parenting	3	.46 to .68	.42 to .57
Indifferent parenting	3	.40 to .54	.44 to .53
Love withdrawal	3	.55 to .71	.59 to .74

Note. All loadings are significant ($p < .001$). A list of all items with their factor loadings is available from the authors.

Analytic Plan

To develop the best measurement model, we first performed a confirmatory factor analysis on the predictor variables, separately for fathers and mothers. Next, to assess the association of each predictor with accuracy of perception, we computed correlations between accuracy and each predictor, separately for each father-son, father-daughter, mother-son, and mother-daughter dyad. To assess how predictors jointly relate to accuracy, we computed a structural equation model including all of them. Finally, we explored the association of each predictor with accuracy in perceiving two single values.

Results

Degree of Accuracy of Perception

Accuracy of perception varied greatly across adolescents. Some adolescents perceived their parents' value system with near perfect accuracy, whereas others were highly inaccurate. The within-dyad correlations that indicate accuracy ranged from .99 to $-.75$ for fathers, and from .96 to $-.64$ for mothers. The first panel in Table 2 presents the means and standard deviations of accuracy for each

of the four dyadic combinations of mother or father with daughter or son. A repeated-measures ANOVA (Parent Gender \times Adolescent Gender) in two-parent families revealed no difference between accuracy in perceiving fathers' and mothers' values, $F(1, 287) = 2.48$, *ns*. Girls, however, perceived their parents' values more accurately than did boys, $F(1, 248) = 5.09$, $p < .05$. There was no interaction between parents' gender and adolescents' gender, $F(1, 287) = 1.25$, *ns*.

Shared social conventions inflate within-family measures of accuracy (Lanz, Scabini, Vermulst, & Gerris, 2001). To estimate inflation in accuracy, we formed dyads by pairing adolescents randomly with an unrelated "parent." Correlations within unrelated dyads are due to shared social conventions. These accuracy correlations were significant ($r = .33$ for "fathers," $.38$ for "mothers") but correlations for real dyads ($r = .49$ and $.47$) were higher, $F(1, 330) = 38.39$, and $F(1, 487) = 19.34$, both $p < .001$. Repeated-measures (real and unrelated parent) ANOVAs in accuracy, with adolescent gender as a second independent variable, indicated that girls perceived parents' values more accurately than did boys, fathers: $F(1, 330) = 9.96$, $p < .01$; mothers: $F(1, 487) = 27.02$, $p < .001$, both for real and for unrelated parents (interactions were not significant).

Table 2
Accuracy in Perceiving Parents' Overall Value System: Means, Standard Deviations, and Correlations With Parenting Variables

	Female adolescents		Male adolescents	
	Mother (<i>N</i> = 288)	Father (<i>N</i> = 174)	Mother (<i>N</i> = 205)	Father (<i>N</i> = 162)
Accuracy correlations with:				
Parental value communication				
Consistency over time	.13**	.17*	.13**	-.02
Word-deed inconsistency	-.14**	.02	-.19**	-.07
Frequency of value discussion	.04	-.01	-.02	-.08
Value agreement in the family				
Value conflict with parents	-.13**	-.19*	-.25*	-.23*
Parents' actual agreement	.29*	.42*	.32*	.29*
Perceived parental agreement	.15**	.20*	.30*	.32*
Parenting dimensions and styles				
Warmth/responsiveness	.16**	.14**	.15**	.22*
Monitoring	-.02	.04	-.07	-.22*
Autocratic parenting	-.30*	-.26*	-.32*	-.27*
Authoritative parenting	.12**	.09	-.06	-.09
Indulgent parenting	.12**	.06	.07	-.14**
Indifferent parenting	-.33*	-.27*	-.12**	-.21*
Love withdrawal	-.22*	-.21*	-.24*	.03
Mean accuracy	.53	.53	.39	.45
Standard deviation	.48	.49	.43	.50

* $p < .01$ (two-tailed). ** $p < .05$ (two-tailed).

Building the Measurement Model for Predictors

We employed structural equation modeling (AMOS statistical package; Arbuckle, 1997) to examine the factor structure of all predictors as well as the associations among predictors simultaneously. Separate analyses were performed for fathers and mothers. We permitted intercorrelations among the predictors because it is reasonable to expect parenting variables to be related. We also permitted correlated errors between parallel indicators of the latent factors for value conflict and value discussion (e.g., indicators of conservation for each). These indicators probably share methods variance because they were based on reading the same value definitions.

The starting model estimated the loading of each item on its hypothesized latent factor. Preliminary analyses led us to modify the models for the parenting styles. For the authoritative style we used only the adolescent-rated Rohan and Zanna (1996) item, measuring it as an observed variable. This was done because correlations among the three potential indicators were low, as was the stability of the factor when the sample was split according to adolescent gender. For the autocratic, indulgent, and indifferent styles we constrained the parent self-description and the adolescent descriptions to have equal loadings. Without this constraint, the factors were based almost entirely on the two adolescent-rated items, ignoring the one parent-rated item. The constraint yielded more balanced factors, measured by both parent and adolescent descriptions.

Overall model fit was fair: The comparative fit index (CFI) was .98 for mothers and .97 for fathers, and the root mean square error of approximation (RMSEA) was .055 for both parents. (Hu & Bentler, 1999). All the indicators loaded significantly on their hypothesized latent factors ($p < .001$). Table 3 presents the matrix of intercorrelations among all 13 predictors. The data above the diagonal are for mothers and those below the diagonal are for fathers.

Relations of Parenting Variables to Overall Accuracy of Perception

Correlations between the predictors and accuracy of perception, computed with structural equation modeling, tested the hypotheses. We analyzed each of the four dyadic combinations of mother or father with daughter or son separately. The second panel in Table 2 presents results for each dyad.

Parental value communication. Perceived consistency of parental messages over time correlated positively, as hypothesized, with accuracy of perception for three dyads, but not for the father-son dyads. Perceived word-deed inconsistency correlated negatively with accuracy of perception in mother-adolescent dyads, as hypothesized, but not in father-adolescent dyads. Contrary to the hypothesis, frequency of value discussion with parents did not correlate with accuracy of perception in any of the dyads.

Value agreement in the family. Results confirmed the hypotheses in all dyads. Perceived value conflict

Table 3
Intercorrelation Matrix of Parenting Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Consistency over time		-.16	.19	-.06	.04	.05	.22	.14	.07	.29	-.19	-.37	.02
2. Word-deed inconsistency	-.09		-.17	.24	-.03	-.30	-.33	-.24	.19	-.14	-.17	.15	.32
3. Frequency of value discussion	.12	-.30		.42	-.04	-.08	.27	.22	.18	.25	.10	-.01	.11
4. Value conflict with parents	-.07	.04	.45		-.13	-.24	-.15	-.03	.47	.03	-.06	.28	.42
5. Parents' actual agreement	.14	-.06	-.06	-.15		.12	.03	-.01	-.18	-.03	-.07	-.10	-.15
6. Perceived parental agreement	.07	-.32	.07	-.11	.12		.04	.12	-.12	-.02	-.08	-.19	-.12
7. Warmth/responsiveness	.26	-.13	.24	-.11	.10	.18		.18	-.43	.25	.41	-.44	-.44
8. Monitoring	.23	-.30	.33	.18	-.09	.05	.25		.11	.15	-.22	-.40	-.02
9. Autocratic parenting	-.04	-.02	.19	.49	-.18	-.14	-.47	.18		.16	-.55	.26	.73
10. Authoritative parenting	.10	-.18	.30	.09	-.01	.11	.34	.16	.03		-.07	-.25	.03
11. Indulgent parenting	-.16	-.01	.13	-.08	-.02	.03	.40	-.07	-.51	.17		.43	-.53
12. Indifferent parenting	-.25	.28	-.20	.14	-.15	-.23	-.54	-.46	.24	-.34	.42		.20
13. Love withdrawal	.05	.04	.05	.44	.01	-.17	-.40	.11	.74	-.08	-.50	.31	

Note. Data are based on 493 mother-adolescent dyads and 336 father-adolescent dyads. Correlations above the diagonal are for mothers; those below the diagonal for fathers. Correlations exceeding |.09| (mothers) or |.11| (fathers) are significant ($p < .05$, two-tailed); correlations significant at the $p < .01$ level are printed in bold.

with parents correlated negatively with accuracy of perception. Parents' actual agreement on values correlated positively with accuracy of perception. Perceived parental agreement also correlated positively with accuracy of perception.

Parenting dimensions and styles. Perceived parental warmth/responsiveness correlated positively with accuracy of perception in all dyads, as hypothesized. Perceived parental monitoring, for which we offered no hypothesis, correlated with accuracy only in father-son dyads ($r = -.22$, $p < .02$, two-tailed). Autocratic parenting correlated negatively with accuracy, as hypothesized. The expected positive relationship between accuracy and authoritative parenting was found only for mother-daughter dyads. Analyses of indulgent parenting yielded mixed results: a positive correlation in mother-daughter dyads, a negative correlation in father-son dyads, and no association in either mother-son or father-daughter dyads. As hypothesized, indifferent parenting correlated negatively with accuracy of perception. The hypothesized negative correlation of perceived love withdrawal with accuracy of perception was confirmed in all but father-son dyads.

Combined Effects of Predictors

The various predictors were interrelated, as expected. We therefore assessed their independent contributions to overall accuracy of perception in a multiple predictor analysis. To reduce the total number of predictors, we formed a second-order, latent parenting factor. This second-order factor contrasted perceived warmth/responsiveness and indulgent parenting with autocratic parenting, indifferent parenting, and perceived love withdrawal. The former entail affectionate, warm, and accepting parenting, whereas the latter entail low acceptance and low or conditional parental affection. We labeled this factor *affectionate parenting*. A multigroup structural equation analysis performed simultaneously on the four parent-child dyads revealed that the five first-order parenting factors accounted for at least 87% of the variance in the second-order, affectionate parenting factor in all four dyads. Moreover, each of the first-order factors loaded significantly on affectionate parenting in all dyads. Model fit was good (CFI = .97, RMSEA = .04).

We next regressed accuracy of perception on affectionate parenting. Affectionate parenting predicted accuracy in all four dyads (mother-daughter, $\beta = 0.27$, $t = 4.07$, $p < .01$; mother-son, $\beta = 0.32$, $t = 3.79$, $p < .01$; father-daughter, $\beta = 0.27$, $t = 3.25$,

$p < .01$; father-son, $\beta = 0.19$, $t = 2.10$, $p < .05$). Next, we regressed accuracy of perception on the other predictors. Stepwise and backward regressions yielded similar results in the mother-daughter, mother-son, and father-daughter dyads. We therefore performed a multigroup analysis in which we constrained the associations of the predictors of accuracy to be equal in these three dyads. This constraint did not reduce the fit of the model ($\Delta\chi^2 = 6.18$, $df = 8$, ns). We therefore combined these three dyads in the following analyses ($N = 667$).

The pattern of associations was clearly different in the father-son dyads. Adding these dyads to the multigroup analysis and constraining the associations to be equal in all four sets of dyads yielded a significantly poorer fit ($\Delta\chi^2 = 16.92$, $df = 6$, $p < .01$). We therefore released the constraints on the father-son dyads in the multigroup structural equation model. The fit of the resulting model was good (CFI = .98, RMSEA = .049). The path diagram in Figure 1 presents the results for the father-son dyads and for the other dyads.

There were six significant, direct predictors of accuracy in one or in both sets of dyads. Path coefficients for affectionate parenting and perceived parental value agreement in the combined three dyads did not differ from those in the father-son dyads ($t = 1.83$ and $t = 1.03$, both ns , respectively). Path coefficients for monitoring and love withdrawal were stronger in the father-son dyads than in the combined three dyads ($t = 2.06$, $p < .05$, and $t = 2.53$, $p < .01$, respectively). Path coefficients for actual parental agreement and perceived consistency over time were stronger in the combined three dyads than in the father-son dyads ($t = 2.08$ and $t = 2.00$, both $p < .05$, respectively).

Mother-daughter, mother-son, and father-daughter dyads. Significant path coefficients reveal that affectionate parenting ($t = 2.26$, $p < .05$), actual parental agreement ($t = 8.28$, $p < .05$), perceived parental agreement ($t = 4.95$, $p < .01$), and perceived consistency over time ($t = 3.24$, $p < .01$) related positively to accuracy. Together, these four variables accounted for 22% of the variance in accuracy of perception. Other predictors had no additional effect.

Father-son dyads. As in other dyads, affectionate parenting ($t = 2.82$, $p < .01$) and perceived parental value agreement ($t = 3.28$, $p < .01$) predicted accuracy independently. Here, however, perceived parental monitoring related negatively to accuracy ($t = -2.52$, $p < .01$). Moreover, perceived love withdrawal had an unexpected, direct positive effect on accuracy ($t = 2.63$, $p < .01$). This is in addition to its expected negative association with accuracy through affec-

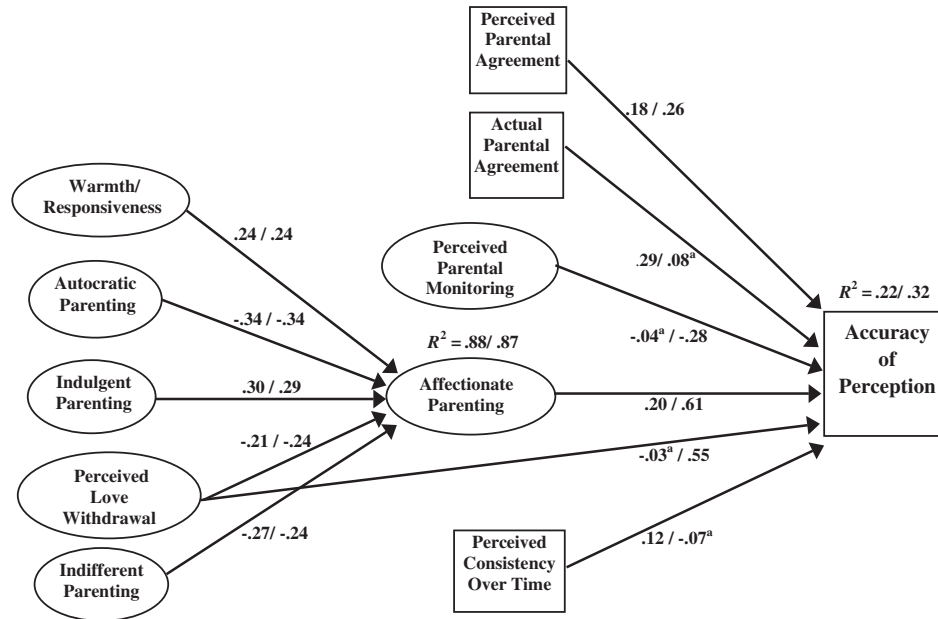


Figure 1. Path-analytic model from structural equation modeling: Effects of parenting on accuracy of perception of parents' values in the combined group (mother–daughter, mother–son, and father–daughter dyads) and in father–son dyads.

Note. Data are standardized path coefficients (betas). The first coefficient on each path is for the combined group; the second is for father–son dyads. Correlations among predictors and indicators of first-order factors are omitted to enhance clarity.

^aPath coefficient not significant.

tionate parenting. Perceived love withdrawal had a zero-order correlation of .03 with accuracy in these dyads. Hence, this finding probably reflects a suppression effect (Cohen & Cohen, 1983). Among equally affectionate fathers, perceived love withdrawal increased sons' accuracy in perceiving their fathers' values. Together, the four predictors accounted for 32% of the variance in accuracy.

Parenting and Accuracy in Perceiving Specific Values

Thus far, we have examined factors that influence accuracy in perceiving parents' overall value systems. Do these factors have similar influences on accuracy in perceiving specific values, despite their different contents? Space considerations preclude examining this question in detail for all 11 values. We limit our exploration to 2 specific values, tradition (respect and commitment to cultural or religious customs and ideas) and hedonism (pleasure or sensuous gratification). Tradition values are the most accurately perceived by adolescents; hedonism values are the least accurately perceived (Knafo & Schwartz, 2002). Following the analyses in the previous section, we treated the father–son

dyads separately and combined the other three dyads into one group for these analyses.

We defined perception as accurate when an adolescent perceived that a specific value had the same importance, relative to the parent's other socialization values, as it actually had in the parent's self-report. Parents and adolescents rated the importance of values. We assessed relative importance by converting the ratings of the 11 single values into ranks from 1 to 11. To measure accuracy, we computed the absolute difference between the rank of the parent's hedonism and tradition values as the adolescent perceived it and as the parent reported it. We subtracted this absolute difference from 11 so that higher scores would indicate greater accuracy. This method of computing accuracy avoids problems inherent in other methods (e.g., simple absolute scores; cf. Cronbach, 1955). It also preserves the meaning of accuracy as relative to the whole value system, as in the overall accuracy measure.

Accuracy levels for hedonism and tradition correlated only weakly (father–son dyads: $r = .13$, $p < .05$; other dyads: $r = .12$, $p < .01$). The first panel in Table 4 presents the means and standard deviations of the accuracy scores for hedonism and tradition. Accuracy levels were higher for tradition than they

Table 4
Accuracy in Perceiving Parental Tradition and Hedonism Values: Means, Standard Deviations, and Correlations With Parenting Variables

Accuracy correlations with:	Mother–son, mother– daughter, father–daughter dyads (N = 667)		Father–son dyads (N = 162)	
	Tradition	Hedonism	Tradition	Hedonism
Parental value communication				
Consistency over time	.04	.01	–.03	–.01
Word–deed inconsistency	–.01	–.03	–.07	–.20**
Frequency of value discussion	–.02	–.01	–.16**	.13**
Value agreement in the family				
Value conflict with parents	–.03	–.12*	–.21**	–.11
Parents' actual agreement	.06	.19*	.19**	.19**
Perceived parental agreement	.06	.10*	.21*	.14**
Parenting dimensions and styles				
Warmth/responsiveness	.12*	.08**	.10	.20**
Monitoring	.06	.02	.01	–.14
Autocratic parenting	–.16*	–.22*	–.28*	–.21*
Authoritative parenting	–.01	.02	–.05	–.06
Indulgent parenting	–.06	.02	–.22*	–.13
Indifferent parenting	–.22*	–.12*	–.38*	–.25*
Love withdrawal	–.08**	–.18*	–.10	–.06
Mean accuracy	8.33	7.49	8.10	7.59
Standard deviation	2.17	2.73	2.42	2.73

* $p < .01$ (two-tailed). ** $p < .05$ (two-tailed).

were for hedonism, fathers: $t(334) = 2.55$, $p < .05$; mothers: $t(491) = 6.63$, $p < .001$.

The second panel in Table 4 presents the correlations between the predictor variables and accuracy in perceiving tradition and hedonism values. Compare these correlations with those in Table 2 to assess the degree of similarity between the correlates of accuracy in perceiving single parental values and in perceiving their overall value systems. Compare correlations for the combined group of three dyads with those in the first three columns of Table 2 and for the father–son dyad with those in the last column in Table 2. The comparisons reveal considerable similarity.

For the set of three dyads, all predictors of overall accuracy that were significant in all three dyads correlated in the same direction with accuracy in perceiving both hedonism and tradition. However, the correlations were generally weaker. Correlations with accuracy in perceiving both single values were significant for warmth/responsiveness, autocratic parenting, indifferent parenting, and love withdrawal. In addition, value conflict with parents, parents' actual agreement, and perceived parental agreement correlated significantly with accuracy in perceiving hedonism values but not tradition values. Among the significant predictors of overall accuracy,

only parental consistency over time failed to predict accuracy in perceiving either single value.

For the father–son dyads, the significant predictors of overall accuracy also correlated in the same direction with accuracy in perceiving both values. Here too, the correlations were generally weaker for the single values. The correlations with accuracy in perceiving both single values were significant for autocratic parenting, indifferent parenting, parents' actual agreement, and perceived parental agreement. Correlations were also significant for tradition with indulgent parenting and value conflict with parents, and for hedonism with warmth/responsiveness. The only significant predictor of overall accuracy that failed to predict accuracy in either single value was monitoring.

Next, consider differences between the single values in the predictors of accuracy. For the set of three dyads, only 3 of 13 predictors had significantly different correlations with accuracy in perceiving tradition and hedonism. All entailed strength of correlation, not direction: Parents' actual agreement correlated more positively with accuracy for hedonism than for tradition ($t = 2.59$, $p < .05$). Indifferent parenting correlated more negatively with accuracy for tradition than for hedonism ($t = 2.00$, $p < .05$), and love withdrawal correlated more negatively with

accuracy for hedonism than for tradition ($t = 1.98$, $p < .05$). For the father–son dyads, only the correlations for frequency of value discussion differed ($t = 2.84$, $p < .01$). This is the one case in which there were significant correlations in opposite directions. In general, then, the correlates of accuracy in perceiving both these single values were similar.

Discussion

Overall Accuracy of Perception Across Dyads

We hypothesized that 11 aspects of parenting relate to accuracy in adolescents' perception of their parents' overall value systems. Six of these variables did relate consistently to overall accuracy in all sets of dyads, in the hypothesized direction: Warmth/responsiveness, parents' actual agreement, and perceived parental agreement correlated positively with accuracy, whereas value conflict, indifferent parenting, and autocratic parenting correlated negatively.

In addition, in all but the father–son dyads, love-withdrawal related negatively to accuracy, and consistency in parental value messages over time related positively to accuracy, as hypothesized. We discuss the unique father–son findings later. Moreover, word–deed inconsistency related negatively to accuracy in both mother–adolescent dyads, and authoritative parenting related positively to accuracy in the mother–daughter dyads. Frequency of value discussion was the only predictor that failed to correlate, as hypothesized, with accuracy in any dyad.

We postulated that word–deed inconsistency undermines accuracy because it arouses negative emotional reactions to parents. Correlations of perceived word–deed inconsistency with other variables suggest that its connotations are different for fathers and mothers (see Table 3). Correlations for fathers were significantly less negative than for mothers with perceived value conflict, autocratic parenting, and perceived love withdrawal and more positive with warmth/responsiveness (all $p < .05$, two-tailed, based on correlation differences for dependent samples). These differences suggest that paternal word–deed inconsistency is less associated with parent–child conflict and with feeling a lack of parental affection. Moreover, adolescents perceived fathers as less consistent than mothers, $t(503) = 6.98$, $p < .001$. Paternal inconsistency may therefore violate their expectations less. These findings suggest that paternal inconsistency elicits weaker negative emo-

tions in adolescents and therefore interferes less with accuracy of perception.

Overall Accuracy of Perception in Father–Son Dyads

As noted, love withdrawal related negatively to accuracy of perception, as expected, in all but father–son dyads. Indeed, controlling for affectionate parenting, love withdrawal promoted accuracy in father–son dyads. Perhaps love withdrawal is more expected and less emotionally upsetting in father–son dyads. If so, it could increase accuracy by drawing the attention of sons to their fathers' messages. It could thereby contribute to value socialization. Future research should evaluate this speculative explanation. Father–son dyads were also the only dyads in which perceived monitoring related negatively to accuracy. Sons may feel especially threatened by the control their fathers exert by close monitoring (Hill & Holmbeck, 1987). The fact that monitoring correlates significantly more positively with perceived parent–child conflict in father–son dyads than in other dyads ($r = .25$ vs. $r = .05$, $Z = 2.38$, $p < .05$, two-tailed) supports this view.

Fathers tend to differentiate more in their treatment of sons and daughters than do mothers (Lytton & Romney, 1991; Maccoby, 1998). Fathers are more controlling toward sons than toward daughters and more likely to reprimand and discipline them (Maccoby, 1998). On the other hand, when their children reach adolescence, fathers tend to withdraw from intimacy with daughters but not sons (Steinberg, 1987). The stronger control and discipline coupled with intimacy characterizing father–son relationships may make love withdrawal more effective and monitoring less effective in drawing sons' attention to fathers' values. Further research is needed to assess this interpretation.

Processes Leading to Accurate Perception

We proposed three potential processes that might lead to accuracy in perceiving parental values among adolescents: availability of parental values, motivation to attend to parental value messages, and the understandability of these messages. Although we did not measure these processes directly, the results provide some evidence relevant to them.

Availability. The current study offers only weak support for this process. We explicated how the following variables might increase the availability of parental values to adolescents: value conflict, autocratic and authoritative parenting, parental monitor-

ing, frequency of value discussion, and warmth/responsiveness. Only the last of these six variables correlated positively with accuracy, however, and the first two correlated negatively. We also explicated how indulgent and indifferent parenting as well as love withdrawal might reduce the availability of parental values. The negative correlations of indifferent parenting and love withdrawal with accuracy offer some support for the availability process. They may, however, also be due to the motivation or understandability processes. Frequency of discussion is the variable most self-evidently related to availability. It is also the only predictor not postulated to influence either the motivation or understandability processes. Hence, its lack of association with accuracy is the most direct evidence against the importance of the availability process.

The presence of a ceiling effect for availability may explain why availability of parental values has little influence on accuracy. When there is already some acquaintance with a target, increased acquaintance may not increase accuracy in perceiving the target's traits (Kenny, 1994). Adolescents, after many years with their parents, may reach a level of acquaintance with their values that makes current variations in the availability of those values no longer important.

Motivation to attend. This process received more support. We explicated how five variables might enhance adolescents' motivation to attend to parental values (consistency over time, perceived parental value agreement, perceived warmth/responsiveness, authoritative parenting, and indulgent parenting), and how five variables might undermine motivation (word-deed inconsistency, value conflict, parental monitoring, autocratic parenting, and indifferent parenting). Seven of these ten variables correlated with accuracy of perception in the direction hypothesized on the basis of their presumed effects on motivation to attend. The other three variables showed no consistent, significant correlations. These findings support the contention that motivation to attend to parental value messages is important for accurate perception of their parents' values by adolescents.

Understandability. We explicated how consistency over time, actual parental value agreement, and perceived parental value agreement might enhance understandability of parental values, and how word-deed inconsistency, value conflict, autocratic parenting, and love withdrawal might undermine understandability. For mothers, all seven of these variables correlated with accuracy in the direction hypothesized on the basis of their presumed effects

on understandability of parental values. For fathers, all but word-deed inconsistency and love withdrawal in the father-son dyads exhibited a similar pattern of correlations. In sum, inconsistency of parental messages and parental behavior that arouses negative emotional responses in adolescents appear to interfere with the ability to understand parental values and thus to reduce accuracy of perception.

Gender Differences in Accuracy of Perception

Daughters perceived their parents' values slightly more accurately than did sons. This gender difference is congruent with Acock and Bengtson (1980), although other research reported no gender differences (Cashmore & Goodnow, 1985). Research on accuracy in perceiving emotional states and personality traits also shows that females are more accurate than males, when there are gender differences (Bernieri et al., 1994; Funder, 1995; Lippa & Dietz, 2000). In the current study female adolescents perceived parental values more accurately than did males even in randomly paired parent-adolescent dyads. This suggests that the advantage of females is due to better knowledge of cultural norms of value importance rather than better perception of their own parents' values.

Accuracy of Perception of Single Values

Examination of the factors that influence accurate perception of single values yielded results largely consistent with those found for accurate perception of parents' overall value system. The positive effects for parents' warmth/responsiveness and for their actual and perceived agreement replicated for both tradition and hedonism. The negative effects for value conflict and parents' autocratic and indifferent parenting also replicated. The negative effects for indulgent parenting in father-son dyads, and for love withdrawal in other dyads, replicated, too. This consistency is notable. Correlations were weaker, probably because of the lower reliability of scores for single values.

Correlations of communication variables with the single values were less in line with the findings for overall accuracy. Consistency of parental value messages over time related to overall accuracy but not to accuracy in tradition or hedonism. Apparently, this type of consistency is relevant for some values but not for others. Word-deed inconsistency correlated negatively with overall accuracy only in mother-adolescent dyads but with accurate of

perception of hedonism values in father–son dyads. This suggests that the effects of word–deed inconsistency depend not only on the specific values in question but also on the particular parent. Finally, in father–son dyads, frequency of value discussion related negatively to accuracy of perception for tradition values, but positively for hedonism values. Perhaps this is because discussions regarding tradition are more conflictual than those regarding hedonism. Correlations between frequency of discussion and conflict were .17 for hedonism and .48 for tradition, (t for difference = 3.43, $p < .01$). Thus, discussion of tradition values may arouse more upsetting emotions that undermine accuracy.

In sum, examination of the predictors of accuracy in perceiving two specific values suggests two conclusions. First, many of the parenting variables that influence accuracy in perceiving parents' socialization values may operate in similar ways regardless of the content of the specific value. Second, the effect of other variables may depend on value content, the particular parent–child dyad, or the interaction between content and dyad. Relations of frequency of value discussion to accuracy in perceiving hedonism and tradition values exemplify the kind of complex interaction that may occur. Analyses of relationships of the predictors with accuracy in perceiving specific values warrant future research.

Accuracy of Perception or Projection?

Judges' reports of target traits include a projection component (Hoch, 1987; Schul & Vinokur, 2000). Projection of own values onto parents would increase accuracy if parents' and adolescents' actual values are similar. It would decrease accuracy if parents' and adolescents' actual values are different (cf. Hoch, 1987). Predictors of accuracy that are associated with parent–child closeness (e.g., affectionate parenting) might motivate adolescents to see their parents as similar to themselves. They might then project their own values onto their parents. This would increase apparent accuracy, if parents' and adolescents' actual values are similar. There is little direct evidence, however, that children project their own values onto their parents when judging their parents' values (Knafo & Schwartz, 2002; Westholm, 1999).

Distinguishing accurate perception from projection of own values that are similar to parents' values may not be possible in the case of adolescents' perceptions of parental values. In close relationships, a co-orientation process occurs over time. Opinions (and values) gradually converge (Kenny & Kashy,

1994). Partners in close relationships tend to use their own opinions in perceiving one another's opinions (Kenny & Kashy, 1994). This then yields accurate perception. Adolescents and their parents have shared many years of close relations during which co-orientation may have led to convergence on values. Children may come to believe that values they acquired from their parents were actually self-generated (Grusec & Goodnow, 1994). Children who believe they are similar to their parents may draw on their own values, consciously or unconsciously, when asked to describe their parents' values. In doing so, they inevitably mix perception and projection.

Limitations

The current study assessed parenting variables either partly or entirely with adolescent reports, with the exception of actual value agreement between parents. As Neiderhiser, Pike, Hetherington, and Reiss (1998) have stressed, adolescent perceptions are likely to affect the impact of parenting on adolescents. More direct, behavioral measures of parenting variables might yield different results. This merits investigation. Moreover, the near absence of findings for authoritative parenting must be viewed with caution. The index used was weak because we had to drop two of the items from the factor that measured this style. An improved index might yield evidence that authoritative parenting does relate to accuracy of perception.

The cross-sectional nature of this study limits causal inferences from the findings. Although accuracy of adolescents' perception of parental values was unlikely to cause actual value agreement between parents, causal directions are less straightforward for other variables. For example, value conflict with parents could result from rather than cause inaccurate perception: If adolescents perceive their parents' values incorrectly, it is harder for them to accommodate their behavior to parental demands. This would increase conflict. Another example: Accurate perception may increase parental warmth because parents may be more attracted to adolescents who understand them. Even longitudinal studies may not be able fully to resolve the order of causality because socialization starts very early in life, when accuracy of perception may be impossible to assess.

It is more fruitful to think of the process of value transmission as reciprocal. Parents and adolescents negotiate mutual understandings of values and of acceptable behavior. Successful negotiation might

produce agreement on values and behavior. Adolescents learn and internalize many of the values their parents want for them, and parents modify their parenting styles.

Future Directions

This study focused on characteristics of parents and on the information they convey to their children as determinants of accurate perception. We studied what Funder (1995) called characteristics of "good targets" and "good information." The final models accounted for 22% to 32% of the variance in adolescents' accuracy of perception of parental values. A wide variety of other variables may account for the remaining variance in accuracy.

Good traits. We conceptualized and measured overall accuracy as a unidimensional concept that refers to adolescents' perception of the hierarchical order among all 11 broad values that constitute their parents' value system. This treats accuracy of perception as a general dependent variable. However, adolescents may perceive the importance to their parents of some values more or less accurately than other values. Here, they perceived tradition values more accurately than hedonism values. Knafo and Schwartz (2002) found that adolescents perceive their parents' tradition values especially accurately. They suggested that accuracy in perceiving specific values depends on the salience of those values and their explicit expression in parental behavior.

This study focused on the perception of basic, general values. We cannot infer that the current findings generalize to values or attitudes regarding content areas such as sexual behavior and drug abuse. However, such contextualized values or attitudes are specific expressions of the basic values (e.g., Schwartz, 1992). Numerous studies demonstrate that basic values relate to contextualized attitudes and behavior presumed to express them (Schwartz & Bardi, 2001). It is therefore possible that processes leading to accuracy are similar for basic values and for the values and attitudes influenced by them. Further research on this issue is desirable.

Good judges. Adolescent characteristics such as intelligence (Davis & Kraus, 1997; Lippa & Dietz, 2000) can enhance the ability to perceive parental values correctly. There is also evidence that adolescents who have gone through a period of questioning and exploring parental values and other value alternatives (cf. Marcia, 1980) perceive parental values more accurately (Knafo, 2000).

Context of perception. Characteristics of the context in which values are perceived may also influence

accuracy. Father absence in divorced families, for example, makes it difficult for adolescents to perceive their fathers' values accurately. Values may be more salient and more accurately perceived in religious contexts or in other ideologically driven communities (e.g., a kibbutz). Accuracy may also be greater in "narrow-socialization cultures" (Arnett, 1995), where the range of acceptable values is limited. In such contexts, children can attain accuracy by inferring their parents' values from many other cultural members. An interaction between family and environment further exemplifies the importance of context. Adolescents who attend schools whose religious orientation differs from that of their families perceive parental values less accurately. This may be due to inconsistent parental messages and increased conflict (Knafo, 2002).

Conclusions

This study investigated a wide range of potential sources of accuracy in adolescents' perception of their parents' values. Despite some gender differences, a generally consistent picture emerged. In most, if not all, sets of dyads, accuracy related positively to parental consistency over time in value messages, to warmth/responsiveness, and to parents' actual and perceived value agreement. Accuracy related negatively to parents' perceived word-deed inconsistency, to value conflict with parents, to autocratic and indifferent parenting, and to love withdrawal. These results largely applied to overall accuracy as well as to accuracy in perceiving single values.

The findings reflect on three mechanisms that have been proposed to account for accuracy of perception. Support for understandability of value messages as an important mechanism in adolescents' perception of parental values comes from relations of consistency of parental values, actual and perceived value agreement between parents, value conflict, autocratic parenting, and love withdrawal to accurate perception. Relations to accurate perception of affectionate parenting practices and parenting characterized by negative or conditional affect suggest that motivation to attend to value messages is an important mediating mechanism. In contrast, availability of parents' value messages may not affect accuracy. Adolescents may already have reached a ceiling of exposure to their parents' values, beyond which further availability is inconsequential.

Accuracy of perception is only the first step in the process of acquiring parental values. Many of the parenting variables examined here may also be

relevant to acceptance of perceived parental values. Moreover, variables that exhibited little relation to accuracy (e.g., indulgent parenting) may be more relevant to acceptance. We are currently investigating this issue

This study has many implications for parents' socialization of adolescents. We note only a few. Through being warm and supportive, parents can build a relational base that makes their adolescent children more likely to attend to and understand their values. In contrast, they may fail to convey their values to adolescents because of inattention or interference from negative emotions if they show indifference or employ love withdrawal. Parents can enhance accuracy by providing consistent value messages and models. However, investing in closely controlling and limiting adolescent children and repeatedly telling them what one wants may undermine accurate perception of parental values rather than enhance it. Autocratic parents, who do this while neglecting the positive emotional aspects of the parent-adolescent bond, apparently estrange their children. They do not achieve a basic condition for value transmission—accurate perception of parental values.

References

- Acock, A. C., & Bengtson, V. L. (1980). Socialization and attribution processes: Actual versus perceived similarity among parents and youth. *Journal of Marriage and the Family, 40*, 501–515.
- Arbuckle, J. L. (1997). *Amos users guide: Version 3.6*. Chicago: Smallwaters.
- Arnett, J. J. (1995). Broad and narrow socialization: The family in the context of a cultural theory. *Journal of Marriage and the Family, 57*, 615–628.
- Bernieri, F. J., Zuckerman, M., Koestner, R., & Rosenthal, R. (1994). Measuring person perception accuracy: Another look at self-other agreement. *Personality and Social Psychology Bulletin, 20*, 367–378.
- Bugental, D. B., & Shennum, W. A. (1984). "Difficult" children as elicitors and targets of adult communication patterns: An attributional-behavioral transactional analysis. *Monographs of the Society for Research in Child Development, 49*(1, Serial No. 205), 1–79.
- Cashmore, J. A., & Goodnow, J. J. (1985). Agreement between generations: A two-process approach. *Child Development, 56*, 493–501.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Cooper, J. (1988). Commentary: The role of conflict in adolescent-parent relationships. In M. Gunnar (Ed.), *21st Minnesota symposium on child psychology* (pp. 181–187). Hillsdale, NJ: Erlbaum.
- Coopersmith, S. (1967). *The antecedents of self-esteem*. San Francisco: Freeman.
- Cronbach, L. (1955). Processes affecting scores on "understanding of others" and "assumed similarity." *Psychological Bulletin, 52*, 177–193.
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*, 487–496.
- Davis, H. M., & Kraus, A. L. (1997). Personality and empathic accuracy. In W. Ickes, (Ed.), *Empathic accuracy* (pp. 145–165). New York: Guilford Press.
- Elder, G. H., Jr. (1963). Parental power legitimation and its effect on the adolescent. *Sociometry, 26*, 50–65.
- Funder, D. C. (1995). On the accuracy of personality judgment: A realistic approach. *Psychological Review, 102*, 652–670.
- Goodnow, J. J. (1997). Parenting and the "transmission" and "internalization" of values: From social-cultural perspectives to within-family analyses. In J. E. Grusec & L. Kuczynski (Eds.), *Handbook of parenting and the transmission of values* (pp. 333–361). New York: Wiley.
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology, 30*, 4–19.
- Guttman, L. (1968). A general nonmetric technique for finding the smallest coordinate space for a configuration of points. *Psychometrika, 33*, 469–506.
- Henry, C. S. (1994). Family system characteristics, parental behaviors, and adolescent family life satisfaction. *Family Relations, 43*, 447–455.
- Hill, J. P., & Holmbeck, G. N. (1987). Disagreements about rules in families with seventh-grade girls and boys. *Journal of Youth and Adolescence, 16*, 221–246.
- Hoch, S. J. (1987). Perceived consensus and predictive accuracy: The pros and cons of projection. *Journal of Personality and Social Psychology, 53*, 221–234.
- Hu, L., & Bentler, P. M. (1999) Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.
- Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. New York: Guilford Press.
- Kenny, D. A., & Kashy, D. A. (1994). Enhanced co-orientation in the perception of friends: A social relations analysis. *Journal of Personality and Social Psychology, 67*, 1024–1033.
- Knafo, A. (2000, July). *Producing parent-child value similarity: The roles of parents, children, and their relations*. A paper presented at the 15th International Congress of the International Association for Cross-Culture Psychology, Pultusk, Poland.
- Knafo, A. (2002, April). *Contexts and value transmission in the family: The case of school selection*. A paper presented at the 4th conference of the International Academy for Family Psychology, Heidelberg, Germany.
- Knafo, A., & Schwartz, S. H. (2001). Value socialization in families of Israeli-born and Soviet-born adolescents in Israel. *Journal of Cross-Cultural Psychology, 32*, 213–228.

- Knafo, A., & Schwartz, S. H. (2003). Culture-appropriate parenting and value transmission in families of Israeli-born and Soviet-born adolescents in Israel. In T. Horowitz, S. Hoffman, & B. Kotik-Friedgut (Eds.), *Pathsetters and Dropouts: Post Soviet Youth*, (pp. 69–88). Blue Ridge Summit, PA: The Rowman and Littlefield Publication Group.
- Knafo, A., & Schwartz, S. H. (2003). Culture-appropriate parenting and value transmission in families of Israeli-born and Soviet-born adolescents in Israel. In T. Horowitz, S. Hoffman, & B. Kotik-Friedgut (Eds.), *Pathsetters and dropouts: Post Soviet youth in the 1990's*. University Press of America.
- Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, *62*, 1049–1065.
- Lanz, M., Scabini, E., Vermulst, A. A., & Gerris, J. R. M. (2001). Congruence on child rearing in families with early adolescent and middle adolescent children. *International Journal of Behavioral Development*, *25*, 133–139.
- Lippa, R. A., & Dietz, J. K. (2000). The relation of gender, personality, and intelligence to judges' accuracy in judging strangers' personality from brief video segments. *Journal of Nonverbal Behavior*, *24*, 25–43.
- Lytton, H., & Romney, D. M. (1991) Parents' differential socialization of boys and girls: A meta-analysis. *Psychological Bulletin*, *109*, 267–296.
- Maccoby, E. E. (1998). *The two sexes: Growing up apart, coming together*. Cambridge, MA: Belknap Press.
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen (Series Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (pp. 1–102). New York: Wiley.
- Marcia, J. E. (1980). Identity in adolescence. In J. Adelson (Ed.), *Handbook of adolescent psychology* (pp. 159–187). New York: Wiley.
- Neiderhiser, J. M., Pike, A., Hetherington, E. M., and Reiss, D. (1998). Adolescent perceptions as mediators of parenting: Genetic and environmental contributions. *Developmental Psychology*, *34*, 1459–1469.
- Okagaki, L., & Bevis, C. (1999). Transmission of religious values: Relations between parents' and daughters' beliefs. *Journal of Genetic Psychology*, *160*, 303–318.
- Rohan, M. J., & Zanna, M. P. (1996). Value transmission in families. In C. Seligman, J. M. Olson, & M. P. Zanna (Eds.), *The psychology of values: The Ontario symposium, Volume 8* (pp. 253–276). Mahwah, NJ: Erlbaum.
- Rudy, D., & Grusec, J. E. (2001). Correlates of authoritarian parenting in individualist and collectivist cultures and implications for understanding the transmission of values. *Journal of Cross-Cultural Psychology*, *32*, 202–212.
- Schul, Y., & Vinokur, A. D. (2000). Projection in person perception among spouses as a function of the similarity in their shared experiences. *Personality and Social Psychology Bulletin*, *26*, 987–1001.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. P. Zanna (Ed.), *Advances in experimental social psychology*, Vol. 25 (pp. 1–65). New York: Academic Press.
- Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, *32*, 268–290.
- Schwartz, S. H., Lehmann, A., & Roccas, S. (1999). Multimethod probes of basic human values. In J. Adamopoulos & Y. Kashima (Eds.), *Social psychology and culture context: Essays in honor of Harry C. Triandis* (pp. 107–123). Newbury Park, CA: Sage.
- Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology*, *32*, 519–542.
- Siegal, M., & Barclay, M. S. (1985). Children's evaluations of fathers' socialization behavior. *Developmental Psychology*, *21*, 1090–1096.
- Smith, T. E. (1982). The case for parental transmission of educational goals: The importance of accurate offspring perceptions. *Journal of Marriage and the Family*, *44*, 661–674.
- Steinberg, L. (1987). Recent research on the family at adolescence: The extent and nature of sex differences. *Journal of Youth and Adolescence*, *16*, 191–197.
- Steinberg, L. (1990). Autonomy, conflict and harmony in the family relationship. In S. S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent*. Cambridge, MA: Harvard University Press.
- Westholm, A., (1999). The perceptual pathway: Tracing the mechanisms of political value transfer across generations. *Political Psychology*, *20*, 525–551.
- Whitbeck, L. B., & Gecas, V. (1988). Value attributions and value transmission between parents and children. *Journal of Marriage and the Family*, *50*, 829–840.
- Zuckerman, M., Koestner, R., DeBoy, T., Garcia, T., Maresca, B. C., & Sartoris, J. M., (1988). To predict some of the people some of the time: A reexamination of the moderator variable approach in personality theory. *Journal of Personality and Social Psychology*, *54*, 1006–1019.